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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/871,216

05/31/2001

Marcel F.C. Schemmann

11890/2

6854

26646 7590 10/30/2007  
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EXAMINER

PHAN, HANH

ART UNIT

PAPER NUMBER

2613

MAIL DATE

DELIVERY MODE

10/30/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

09/871,216

Applicant(s)

SCHEMMANN ET AL.

Examiner

Hanh Phan

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13,24-29,51 and 52 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11 and 25-27 is/are allowed.
- 6) ☒ Claim(s) 12,13,24,28,51 and 52 is/are rejected.
- 7) ☒ Claim(s) 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This Office Action is responsive to the Amendment filed on 08/08/2007.
2. The indicated allowability of claims 24 and 28 is withdrawn in view of the newly discovered reference(s) to Schemmann et al (Pub. No.: US 2002/0109883) . Rejections based on the newly cited reference(s) follow.

***Claim Rejections - 35 USC § 101***

3. Claims 12, 13, 51 and 52 are rejected under 35 U.S.C. 101 because A “signal” implies signaling-that is, the conveying of information. To convey information to a recipient a physical carrier, such as an electromagnetic wave, is need. Thus, in order to be a “signal,” as required by claim, some carrier upon which the information is embedded is required. See Arrhythmia Research Tech., Inc. v. Corazonix Corp., 958 F.2d 1053, 1059.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 51 and 52 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

-Claim 51 recites the limitation "**orthogonal data signal**" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim.

-Claim 51 recites the limitation "**two side carriers**" in line 2. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 12, 51 and 52 are rejected under 35 U.S.C. 102(e) as being anticipated by Miyamoto et al (US Patent No. 6,865,348).

Regarding claim 12, referring to Figures 2A and 5A, Miyamoto et al teaches a method of reducing the transmitted power of a quadrature modulated data signal, comprising the steps of:

providing a quadrature modulated optical data signal (i.e., a binary RZ modulated signal P7, Figs. 2A and 5A, col. 12, lines 39-67, col. 13, lines 1-67 and col. 14, lines 1-57); and

during all transitional states of the quadrature modulated optical data signal (i.e., a binary RZ modulated signal P7, Fig. 5A) in which data symbols can change in value,

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reducing the power to zero such that transmitted power decreases to zero at approximately a mid point of each of the transitional states (i.e., Fig. 5A, col. 14, lines 20-57).

Regarding claim 51, Miyamoto further teaches spreading orthogonal data signals (i.e., orthogonal data signals, Figs. 4A and 4B) onto two side carriers of an optical signal (i.e., the clock signal of frequency B generated in the system clock source 2 is input into the  $\frac{1}{2}$  frequency dividing circuit 31 in the pulse light source driving section 3, Fig. 2A) to obtain the quadrature modulated optical signal (i.e., a binary RZ modulated signal P7, Figs. 2A and 5A, col. 12, lines 39-67, col. 13, lines 1-67 and col. 14, lines 1-57).

Regarding claim 52, Miyamoto further teaches the two side carriers are separated from another by a clock rate (i.e., the clock signal of frequency B generated in the system clock source 2 is input into the  $\frac{1}{2}$  frequency dividing circuit 31 in the pulse light source driving section 3, Fig. 2A, col. 12, lines 39-67, col. 13, lines 1-67 and col. 14, lines 1-57).

8. Claims 12, 13, 24, 28, 51 and 52 are rejected under 35 U.S.C. 102(e) as being anticipated by Schemmann et al (Pub. No.: US 2002/0109883).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in

the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 12, referring to Figures 1 and 2a-2e, Schemmann et al teaches a method of reducing the transmitted power of a quadrature modulated data signal, comprising the steps of:

providing a quadrature modulated optical data signal (i.e., an optical output at CMB4, Fig. 2d, pages 2 and 3, paragraphs [0027]-[0031]); and

during all transitional states of the quadrature modulated optical data signal (i.e., an optical output at CMB4, Fig. 2d) in which data symbols can change in value, reducing the power to zero such that transmitted power decreases to zero at approximately a mid point of each of the transitional states (i.e., Fig. 2d, pages 2 and 3, paragraphs [0027]-[0031]).

Regarding claim 13, Schemmann et al further teaches combining the quadrature modulated optical data signal with a side carrier (i.e., combiner CMB5 combining the optical output at CMB 3 with a light source SR1, Fig. 1, pages 2 and 3, paragraphs [0027]-[0031]).

Regarding claims 24 and 28, referring to Figures 1 and 2a-2e, Schemmann et al teaches an optical data signal transmitter comprising:

a Mach-Zhender modulator (i.e., modulator PM1 and PM, Fig. 1) receiving an input optical signal (i.e., light source SR1, Fig. 1) and modulating a pair of side carriers (i.e., a pair of side carriers SG1 and SG2, Fig. 1) onto the input optical signal, outputting an optical carrier signal; and

at least two phase modulators (i.e., MZ1-MZ4, Fig. 1) the at least two phase modulators receiving the optical carrier signal and each generating an optical data signal by modulating a pair of data signals onto at least two data bands (i.e., Fig. 1, pages 2 and 3, paragraphs [0027]-[0031]);

wherein the data bands are spread in frequency when modulated onto the optical carrier signal, the spreading causing an amplitude of the optical data signal to be reduced to zero during all transitional states between any pair of data symbols, in which the data symbols can change in value (i.e., Figs. 1 and 2a-2e, pages 2 and 3, paragraphs [0027]-[0031]).

Regarding claim 51, Schemmann et al further teaches spreading orthogonal data signals onto two side carriers of an optical signal to obtain the quadrature modulated optical signal (i.e., Figs. 1 and 2a-2e, pages 2 and 3, paragraphs [0027]-[0031]).

Regarding claim 52, Schemmann et al further teaches the two side carriers are separated from another by a clock rate (i.e., Figs. 1 and 2a-2e, pages 2 and 3, paragraphs [0027]-[0031]).

#### ***Allowable Subject Matter***

9. Claim 29 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 1-11 and 25-27 are allowed.

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***Response to Arguments***

11. Applicant's arguments with respect to claims 1-13, 24-29, 51 and 52 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

  
**HANH PHAN**  
**MARY EXAMINER**



# REPLACEMENT SHEET

Approved  
HP  
10/28/07

FIG. 2a

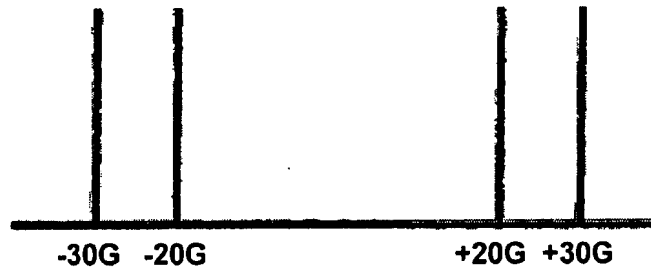


FIG. 2b

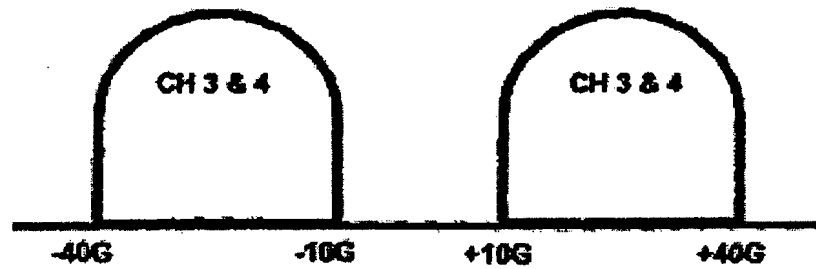


FIG. 2c

